

PATENT COOPERATION TREATY

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From the
INTERNATIONAL SEARCHING AUTHORITY

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

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Date of mailing
(day/month/year)

21 -07- 2005

Applicant's or agent's file reference

PCT 2004 00384

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/DK2005/000129

International filing date (day/month/year)

25.02.2005

Priority date (day/month/year)

08.03.2004

International Patent Classification (IPC) or both national classification and IPC

D21F5/18

Applicant

Vedsted Lars et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further opinions, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/SE

Patent- och registreringsverket

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/DK2005/000129

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language, _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The question whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application

☒ claims Nos. 2

because:

☐ the said international application, or the said claims Nos. _____
relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. _____
are so unclear that no meaningful opinion could be formed (*specify*):

☐ The claims, or said claims Nos. _____ are so inadequately supported
by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claims Nos. 2

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of
the Administrative Instructions in that:

the written form

☐ has not been furnished

☐ does not comply with the standard

the computer readable form

☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not
comply with the technical requirements provided for in the Annex C-bis of the Administrative Instructions.

☐ See Supplemental Box for further details.

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Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/IPEA/206) to pay additional fees the applicant has:
- ☐ paid additional fees
- ☐ paid additional fees under protest
- ☒ Not paid additional fees
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ Complied with
- ☒ Not Complied with for the following reasons:

Invention I: (claims 1 and 3-5) The invention according to claims 1 and 3-5 concerns a method of heating or cooling food in a closed pipe serpentine with a non-circular cross section.

Invention II: (claims 2-4) The invention according to claims 2-4 concerns a method of heating or cooling food in a closed pipe serpentine in that the entry point of the pipe is shaped as an ejector pipe with an increasing area.

The concept unifying the invention I and II a method of heating or cooling food in a closed pipe serpentine. However, this concept is known from US 5275091 A. (prior art)

The special technical features characterising invention I is a closed pipe serpentine with a non-circular cross section to improve the mixing of the foodstuff and the liquid during the transport through the tube serpentine.

.../...

4. Consequently, this opinion has been established in respect of the following parts of the international application:
- ☐ all parts
- ☒ the parts relating to claims Nos. 1 and 3-5

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: IV

The special technical features characterising invention II is that the entry point of the pipe in the closed pipe serpentine is shaped as an ejector pipe with an increasing area to increase the suction or absorption capacity of the pipe serpentine.

In conclusion, therefore, the two groups of claims are not linked by same or corresponding special technical features and define different inventions not linked by a single general inventive concept. The application, hence does not meet the requirements of unity of invention as defined in Rule 13.1 and 13.2 PCT.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>3-4</u>	YES
	Claims	<u>1 and 5</u>	NO
Inventive step (IS)	Claims	<u></u>	YES
	Claims	<u>1 and 3-5</u>	NO
Industrial applicability (IA)	Claims	<u>1 and 3-5</u>	YES
	Claims	<u></u>	NO

2. Citations and explanations:

The object of the invention according to claims 1 and 3-5 concerns a method of heating or cooling food in a closed pipe serpentine with a non-circular cross section and a product for heating or cooling food in a closed pipe serpentine with a non-circular cross section.

The following document is cited in the International Search Report:

D1: US 3130080 A

D1 reveals a rotating crystallizer for sugar with a plurality of tubular elements for discharge of heat exchange medium from said elements. The rotating closed pipe serpents are shaped non-circular in the cross section of the axis of rotation. (See column 1, lines 26-45; column 2, lines 9-21; column 4, lines 9-18; fig. 1-4 and claim 1.)

Consequently, claims 1 and 5 lack novelty.

Dependent claims 3-4 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, involve an inventive step, since said features fall within the scope of the customary practice followed by persons skilled in the art.

Accordingly, claims 3-4 lack an inventive step.

In light of the arguments stated above, the invention according to claims 1 and 5 is not considered to be novel and the invention according to claims 3-4 is not considered to involve an inventive step.